

EXHIBIT 1

ADDITIONAL DESCRIPTIONS AND SPECIFICATIONS FOR SAGA EXCLUSION REQUESTS

7. Product 1095 ra greater than or equal to 8, width 24.5".

HTSUS 7225.50.80.

The product is a cold rolled strip for hardening with special low roughness (bright finish) in hard rolled condition and wide widths. To SAGA's knowledge, there is no U.S. production in these widths nor are there any substitute products. Production requires a wide strip mill, provided by special rolling technology and special grinded work rolls. The products will be finished (hardened in the United States and are used in the manufacture of shock absorbers.

Chemistry:

C = 0.97 – 1.03 percent

Si = 0.15 – 0.30 percent

Mn = 0.40 – 0.50 percent

P = max. 0.020 percent

S = max. 0.003 percent

Al = max. 0.010 percent

Cr = 0.31 – 0.50 percent

Roughness: Ra (RMS) max. 8µinch

Width: 24.5 – 40.0 inches

The thickness to be delivered in these wide widths are 0.2 to 3.0 mm (.008 - 0.12 inches).

12. Product C 125 pin point

HTSUS 7226.92.50.

This product is used in the production of various types of saws, especially technical optimizing for hardening of saw teeth. SAGA is aware of some German producers of this product, but to SAGA's knowledge, there is no U.S. production. The product is a cold rolled steel strip, carbon content approximately 1.25 percent with a pin point carbide structure that means a very high number of carbide in the material structure. The dimensions are thickness 0.6 - 0.9 mm = .024 - .036 mm; width 200-400 mm = 8 - 16 inches. Production requires special melting companies for this grade with special hot rolling technology as precondition for obtaining the special structure, as well as additional cold rolling technology to finalize the pin point structure.

Thickness = 0.20 – 0.80 inches

Chemistry:

C = 1.20 – 1.30 percent

Si = 0.15 – 0.30 percent

Mn = 0.20-0.50 percent

P = max. 0.020 percent

S = max. 0.010 percent

Al = max. 0.010 percent

Cr = 0.31 – 0.50 percent

Carbide structure: greater than 350.000 Carbides per square mm

14. Open coil annealed strip (OCA) 1050/1065/1075 - steel rules and die steel

HTSUS 7225.50.80, 7209.16.00, 7209.17.00.

This product is a specialized cold rolled strip with no common name used after hardening in the U.S. by the paper and textile industry for steel rules and die steel. The product is a cold-rolled strip in heat-treatable steel grades AISI 1050/1065/1075 with decarburized surface. The product requires special annealing for low carbon surface for AISI grades 1050, 1065, and 1075. Production of this product requires open coil batch annealing facilities and special annealing systems for decarburizing. Surface-decarburized C-steel, C-content 0.30 - 0.80 percent and Cr 0-0.50 percent. Decarburization of hot and cold rolled steel; thickness range 0.50 - 3.00 mm (0.020 - .120); strip widths: 300-800 mm (12-31 inches); decarburization in an open coil batch annealing line; defined, adjusted decarburization depths of 10 - 300 um with adjusted C-carbon transition gradient. This product is not hardened but requires another unique open coil process annealing for low carbon surface for AISI grades 1035, 1045, 1050, 1065 and 1075. Thickness Tolerance: T3 and better.

31. Ski Edge Profile

HTSUS 7228.60.80 and 7216.69.00

This product is used by the ski-and snowboard industry. Grade: SAE 1070 and German Grade X35Cr17; hardened and tempered, bright surface or primer coated, stamped condition.

Chemistry:

C = 0.33 – 0.45 percent

Si ≤ 1.0 percent

Mn ≤ 1.5 percent

P max. 0.040 percent

S max. 0.025 percent

Cr = 15.5 – 17.5 percent

Mo = 0.8 – 1.3 percent

Pi ≤ 1.0 percent

See attached drawing.

32. High Carbon Deep Drawing Steel Alloyed

HTSUS 7211.29.60, 7226.92.50

This product is used in the stamping and tooling industry. This product must have special tolerances with regard to thickness, tensile strength and surface condition. All material is produced to customer specification. Grade: 1050 modified, 1070 and 1074 modified, 1095 modified; annealed and skin passed; thickness .010 – 0.125 inches; width: 12.375 – 20.000 inches. Special tolerances 1075 and 1095. Chemistry: Cr greater than 0.3 percent; S less than or equal to 0.015 percent; P less than 0.02 percent.

Thickness tolerances

Less than or equal to +/- 0.0005 inches for thickness .010 inches – 0.032 inches, and +/- 0.001 inches for thickness .033 and above.

The material is delivered in spheroidized condition degree greater than 96 percent), τ value greater than 1.25 measured to EY 10139 App. A. In addition the material is supplied with an extraordinary surface (not standard). Following values apply: RA less than or equal to 0.35 mm or $0.7 \text{ mm} \leq \text{RA} \leq 2.00 \text{ mm}$.

34. Certain Lapping Carrier Steel

HTSUS 7209.17.00, 7225.50.80, 7226.92.50

The product is used in the computer industry. Grade SAE 1075 modified and SAE 1095 modified (alloyed); hardened and tempered; thickness – 0.10 - .040 inches; Width: 12.000 – 24.000 inches. The product has extremely low thickness deviation across the width of the material (maximum 0.0004") in connection with a very high hardness and extremely low flatness values (0.001" per inch width). To SAGA's knowledge, there is no U.S. production of this product according to these specifications. Cr greater than 0.30 percent. Hardness max. 50 RC.

41. Product 1075 T5 Tol. And better, 24.5 inch width

HTSUS 7225.50.80.

This product is used in the production of special parts (precision stamping) for the automotive industry and requires exact dimension.. To SAGA's knowledge, there is no U.S. production in these widths and no substitute products. This product is a cold rolled strip steel for strip hardening with extremely tight tolerances in widths (for instance: cold rolled strip AISI 1075 in thickness 0.0042 inches) with tolerances +/- .0004 inches. (T5 = based on the international recognized tolerance tables for precision strip products. Thickness range 0.2 - 3.0 mm (.008 to 0.12 inches). Production requires specially produced hot bands with very tight tolerances, measured cross and length rolling direction, state-of-the-art cold roll mill equipped with different specialized types of gauge control systems.

Chemistry:

C = 0.70 – 0.80 percent

Si = 0.15 – 0.30 percent

Mn = 0.50 – 0.70 percent
P = max. 0.020 percent
S = max. 0.010 percent
Al = max. 0.020 percent
Cr = 0.31 – 0.50 percent
Width: 24.5 – 40 inches.

42. Product 1095 T5 Tol. And better 24.5 inch width

HTSUS 7225.50.80.

This product is used in the production of special parts (precision stamping) for the automotive industry and requires exact dimension.. To SAGA's knowledge, there is no U.S. production in these widths. This product is a cold rolled strip steel for strip hardening with extremely tight tolerances in widths (for instance: cold rolled strip AISI 1075 in thickness 0.0042 inches) with tolerances +/- .0004 inches. (T5 = based on the international recognized tolerance tables for precision strip products. Thickness range 0.2 - 3.0 mm (.008 to 0.12 inches). Production requires specially produced hot bands with very tight tolerances, measured cross and length rolling direction, state-of-the-art cold roll mill equipped with different specialized types of gauge control systems.

Chemistry:

C = 0.97 – 1.03 percent
Si = 0.15 – 0.30 percent
Mn = 0.40 – 0.50 percent
P = max. 0.020 percent
S = max. 0.005 percent
Al = max. 0.020 percent
Cr = 0.31 – 0.50 percent
Width: 24.5 – 40 inches.

57. 2% Nickel T5 Tolerances and ra less than 8 my

Used in the production of various types of saws, especially for stone saws. To SAGA's knowledge, there are no U.S. producers of this product. The product is a cold rolled steel strip. Production requires special melting companies for this grade with special hot rolling technology.

Chemistry:

C = 0.70 – 0.80 percent
Si = 0.15 – 0.35 percent
Mn = 0.30 – 0.50 percent
P = max. 0.020 percent
S = max. 0.010 percent
Al = max. 0.020 percent
Cr = 0.05 – 0.30 percent
Ni = 1.90 – 2.20 percent

High precision T5 Tolerance

Thickness range: 0.5 – 3.5 mm

Width range: 50 – 650 mm

Roughness: Ra (RMS) max. 8μinch

9,0

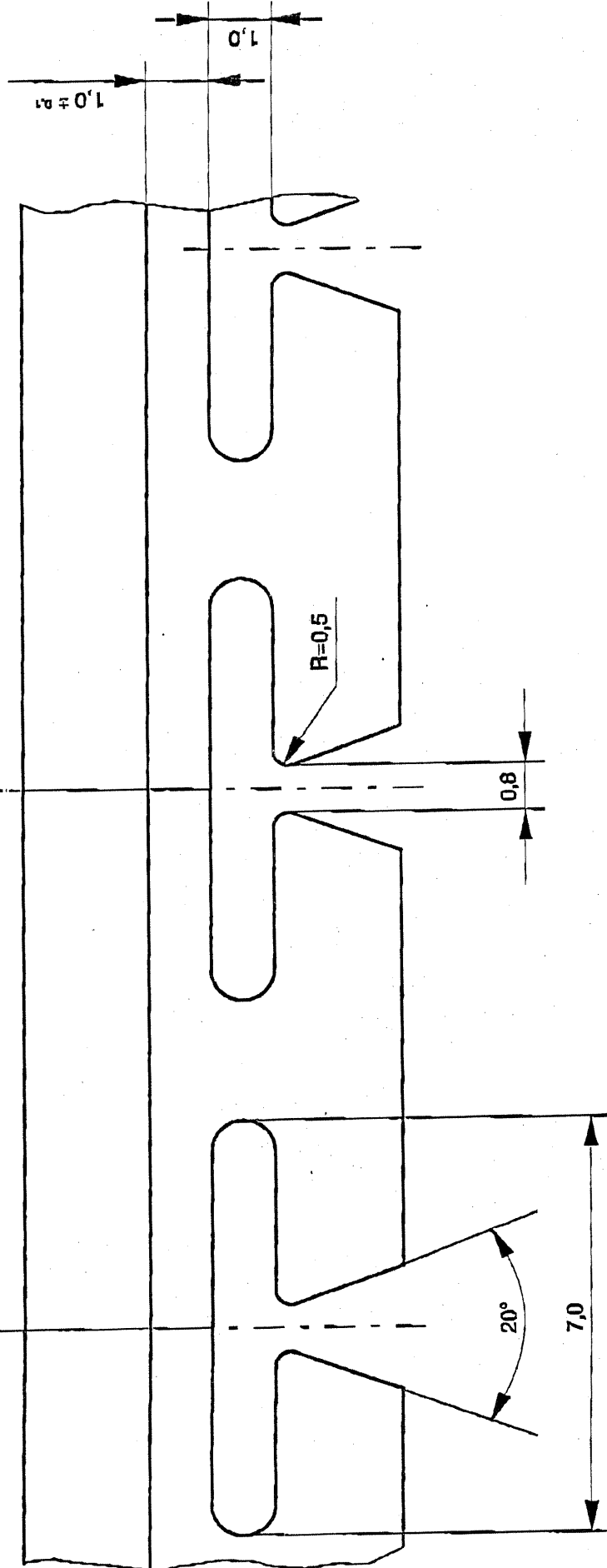
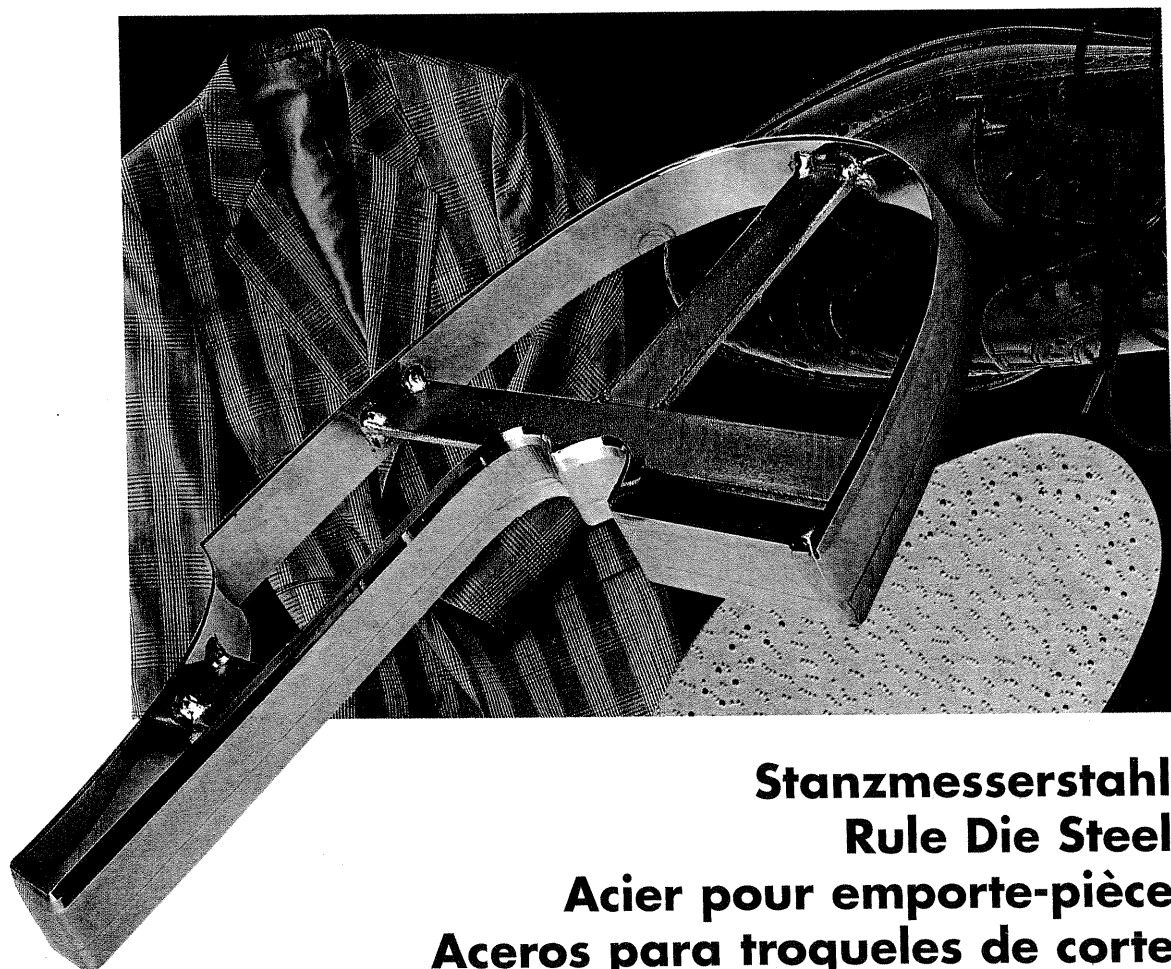


EXHIBIT 2



Stanzmesserstahl
Rule Die Steel

Acier pour emporte-pièce

Aceros para troqueles de corte

Nastri acciaio per fustelle

Aço para navalhas de corte por estampagem

HF-Orange
HF-Orange
HF-Orange
HF-Naranja
HF-Arancio
HF-Orange

Normal-Gelb
Normal-Yellow
Normal-Jaune
Normal-Amarillo
Normale-Giallo
Normal-Amarelo

Grundkörperhärte
Body hardness
Dureté des corps
Dureza del cuerpo
Durezza del corpo
Dureza do material da base

37 – 39 HRC

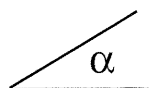
41 – 43 HRC

Schneidenhärte
Hardness of the cutting edge
Dureté des tranchants
Dureza del filo
Durezza del tagliente
Dureza do fio de corte

50 HRC

41 – 43 HRC

Biegefähigkeit
Bendability
Flexibilité
Flexibilidad
Piegabilità
Dobramento a frio



60° 1,5 mm
2 mm

80° 2,5 mm

85° 2,8 mm

90° 3 mm
3,5 mm

90°

90°

100°

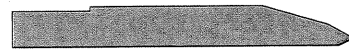
110°

Stanzmesserstahl – Rule Die Steel – / Nastri acciaio per fustelle – Aço para

Typ Type Type Tipo Tipo Tipo	Lagerdimensi Stock dimensi Dimensions e Medidas de e Dimensioni a Dimensões de
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BE

19 x 2,0
19 x 2,5
19 x 2,8
19 x 3,0
32 x 2,0



BD

19 x 2,0
19 x 2,5
19 x 2,8
32 x 2,0
32 x 2,5



AE

19 x 2,0
32 x 2,0
32 x 2,5



AD

19 x 2,0



TE-g / TE-w

19 x 2,0
32 x 2,0
32 x 2,5
32 x 3,0
50 x 2,5
50 x 2,8



ATE

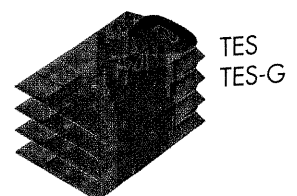


SE-g / SE-w

32 x 2,5



TE - K



TES
TES-G

- Acier pour emporte-pièce - Aceros para troqueles de corte - para navalhas de corte por estampagem

Dimension (HF-Orange)
Dimensions (HF-Orange)
Mensuras em stock (HF-Orange)
Medidas de existencia (HF-Naranja)
Misure a magazzino (HF-Arancio)
Medidas de armazenagem (HF-Orange)

Anwendung
Application
Utilisation
Aplicación
Applicazione
Aplicação

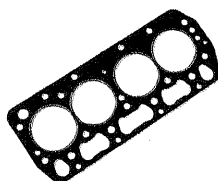
0 32 x 2,5 50 x 2,5
5 32 x 2,8
8 32 x 3,0
0 50 x 2,8
0 25 x 2



0
5
8
0
5



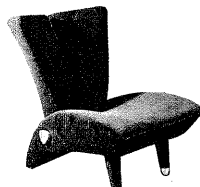
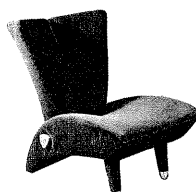
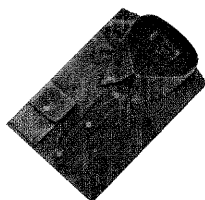
0 19 x 2,5
0 19 x 3,0
5 25 x 2



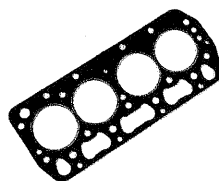
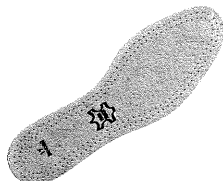
0



0 (TE-g) 50 x 3,0 (TE-g)
0 (TE-g / TE-w)
5 (TE-g / TE-w)
0 (TE-w)
5 (TE-g)
8 (TE-g / TE-w)



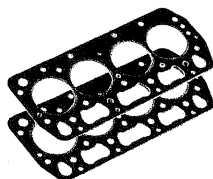
5 (SE-g)



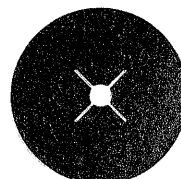
TES-G



BEp



SES



AE-extrahard

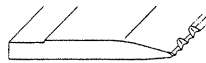
Textilstahl – Textile steel – Acier pour textile – Acero para textil – Nastro per impieghi tessili – Aço para corte de tecidos

Type
Type
Type
Tipo
Tipo
Tipo

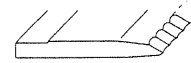
TE-g / TE-w



TES



TES-G



Stanzdruck
Cutting pressure
Pression de coupe
Presión de corte
Pressione di fustellatura
Pressão de estampagem

100%

65%

50%

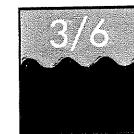
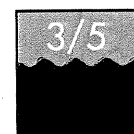
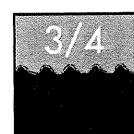
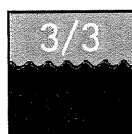
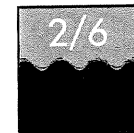
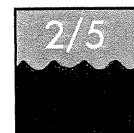
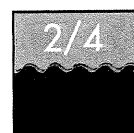
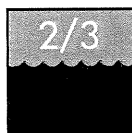
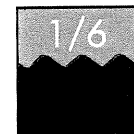
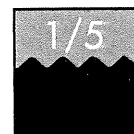
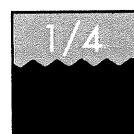
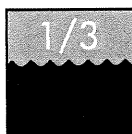
Lagerdimension 19 x 2,0 (TE-g)
Stock dimensions 32 x 2,0 (TE-g / TE-w)
Dimensions en stock 32 x 2,5 (TE-g / TE-w)
Medidas de existencia 32 x 3,0 (TE-w)
Dimensioni a magazzino 50 x 2,5 (TE-g)
Dimensões de armazenagem 50 x 2,8 (TE-g / TE-w)
50 x 3,0 (TE-g)

19 x 2
32 x 2
32 x 2,5
50 x 2,8

19 x 2
32 x 2
32 x 2,5
50 x 2,8


Zackenstahl – Gimp steel – Acier dentelé – Fleje festón – Nastro dentellato – Lâminas de aço com corte serrilhado

19 x 2,5 mm
32 x 2,5 mm



Einschneidig / Doppelschneidig
Single edge / Double edge
Un tranchant / Deux tranchants
Un filo / doble filo
Taglio singolo / Taglio doppio
Corte simples / Corte duplo

Böhler Stanzmesserstahl

 Durch die sorgfältige Auswahl des Vormaterials, einen qualitätsgesicherten Herstellungsprozeß (ISO 9001) und durch laufende Forschungsarbeiten und Verbesserung unserer Produkte sind wir in der Lage, für jedes Stanzproblem die optimale Lösung zu bieten. Wir bieten Ihnen eine Vielzahl von Typen und Dimensionen in den zwei Ausführungen HF-Orange (mit hochfrequenzgehärteter Schneide) und Normal-Gelb (mit extra starkem Grundkörper). Unsere konstante Qualität sichert Ihnen gleichbleibend zufriedenstellende Resultate. Unser Erfolg: Optimale technische Lösungen, Kundenservice, Beratung.



Böhler Rule Die Steel

Through the careful selection of raw materials, a quality-assured manufacturing process (ISO 9001), and through continuous research and improvement of our product, we are in the position to offer the most optimal solution to any cutting problem. We offer a great number of types and dimensions in both the HF-Orange (with high frequency hardened cutting edge) and the Normal-Yellow (with extra strong body) designs. Our constant quality ensures steady, satisfying results. Our success: optimal technical solutions, customer service, consultation.



Acier pour emporte-pièce Böhler

Grâce au choix minutieux du matériau, un procédé de fabrication garantissant la qualité ISO 9001, ainsi que des travaux de recherches réguliers et une amélioration de nos produits, nous sommes en mesure de proposer une solution optimum à tous problèmes de découpe. Nous vous proposons une grande variété de profils et de dimensions en deux exécutions: HF-Orange (avec un tranchant durci par haute fréquence) et Normal-JAUNE (avec une seule dureté de corps plus importante que le HF-Orange). Notre qualité constante vous garantit toujours les mêmes résultats satisfaisants. Notre succès: des solutions techniques optimums, un service clientèle et des conseils judicieux.



Aceros para troqueles de corte Böhler

Debido a la esmerada selección de la materia prima, a nuestros procesos de fabricación que garantizan la calidad (ISO 9001) y a los constantes trabajos de investigación y perfeccionamiento de nuestros productos, estamos en condiciones de brindarles la solución óptima para cualquier aplicación de corte. Les ofrecemos una extensa gama de tipos y medidas en las dos versiones HF-Naranja (con filo templado por alta frecuencia) y Normal-Amarillo (con cuerpo extrafuerte). Nuestra calidad constante les asegura unos resultados satisfactorios y duraderos. Nuestro éxito: soluciones técnicas óptimas, servicio al cliente y asesoramiento.



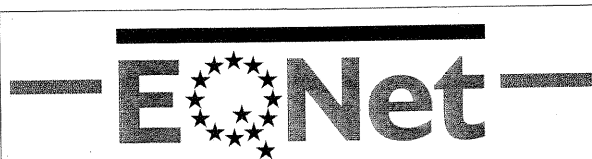
Nastri per fustelle acciaio Böhler

Grazie all'accurata scelta del materiale di partenza, al processo di produzione in garanzia di qualità (ISO 9001), al lavoro di ricerca ed al miglioramento continuo dei nostri prodotti, siamo in grado di offrire la soluzione migliore per qualsiasi problema di fustellatura. Offriamo inoltre una grande varietà di tipi e dimensioni nelle due esecuzioni HF-Orange (con tagliente temprato ad alta frequenza) e Normal-Yellow (con corpo di supporto ad alta resistenza). La nostra qualità costante garantisce risultati buoni e permanenti. Il nostro successo: soluzioni tecniche ottimali, servizio di assistenza, consulenza.



Aço Böhler para navalhas de corte por estampagem

Mediante a escolha cuidadosa do material básico, um processo de produção que incorpora o controle da qualidade (ISO 9001), e trabalhos contínuos de pesquisa, desenvolvimento e aperfeiçoamento de nossos produtos, somos capazes de apresentar-lhes a melhor solução para qualquer problema relacionado à estampagem. Oferecemo-lhes uma grande variedade de tipos e dimensões em duas versões, HF Orange (com fio de corte temperado a alta frequência) e Normal Amarelo. A nossa qualidade garantida assegura-lhes vida útil extremamente elevada de suas ferramentas. As nossas vantagens são: perfeitas soluções técnicas, assistência pós-venda e consultoria.



THE EUROPEAN NETWORK FOR QUALITY SYSTEM ASSESSMENT AND CERTIFICATION

This is to state that
BÖHLER-YBBSTAL BAND GmbH & Co KG
DIVISION OF BÖHLER-UDDEHOLM AG
ROTTE WÜHR
WAIDHOFNERSTRASSE 3
A-3333 BÖHLERWERK
AUSTRIA

holds the Quality System Certificate

FM 34461
BS EN ISO 9001 : 1994

for the standard from the
BS EN ISO 9000
series, and the scope as specified therein

Signed for and on behalf of EQNet member



DATE: 26 July 1996

NUMBER: E10335/96

EQNet members are:

AENOR Spain AFAQ France AIB-Vincotte Belgium BSI QA United Kingdom
CISQ Italy DS Denmark DQS Germany ELOT Greece IPQ Portugal KEMA Netherlands
NCS Norway NSAI Ireland OQS Austria SFS Finland SIS Sweden SQS Switzerland

The issuing member holds all other EQNet members harmless for any claims
arising from the existence of this document

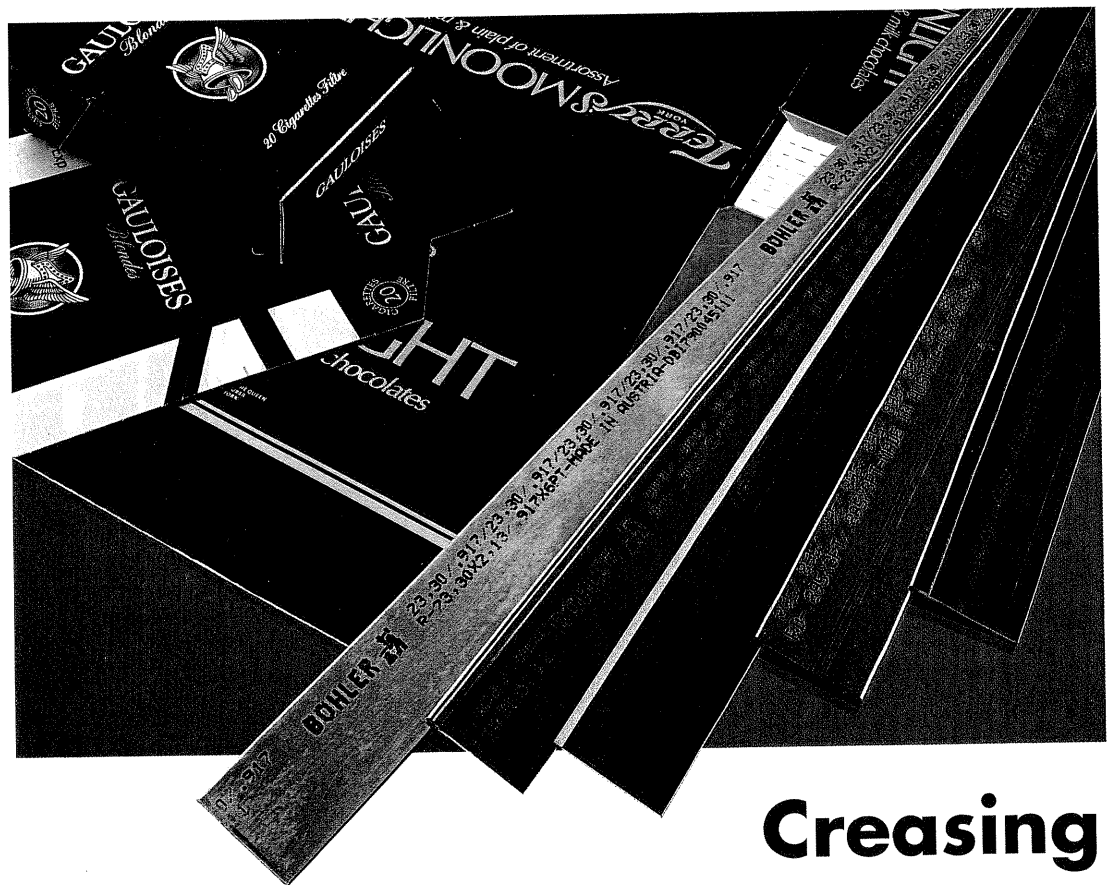
P138 Seite 1



BÖHLER-YBBSTAL Band GmbH & Co KG
Rotte Wühr, Waidhofner Straße 3
A-3333 Böhrlerwerk, Austria
Tel.: ++43 (0) 74 42 / 600-250, ..., 254
Fax: ++43 (0) 74 42 / 600-260

Ein Unternehmen der **BÖHLER UDDEHOLM** Gruppe

BOHLER



**Creasing
Rules**

Böhler Flat Bed Rules

Creasing Rules

A) General Information:

The quality of the creasing rules is equally as important as the quality of the cutting rules.

The design of boxes is becoming ever more complex and due to the continually increasing speed of packaging production machinery, the use of high quality creasing rules is becoming more and more important.

BÖHLER, therefore, produces a wide range of creasing rules which equal BÖHLER cutting rules in their accuracy:

- very smooth crease head surface
- a perfectly radiused, smooth profile
- a flowing continuity from the radiused profile to the side faces of the rule
- minimum eccentricity
- minimum height tolerances
- rule thickness complementary to cutting rules
- SUPREME - coating possible

B) Manufacturing Programme:

BÖHLER creasing rules are produced in two manufacturing methods, depending on the rule thickness required:

HT - Hardened and Tempered Creasing Rules:

This method of manufacture guarantees the required stability of rules, with a relatively small cross-section.

HR - Hard Rolled Creasing Rules:

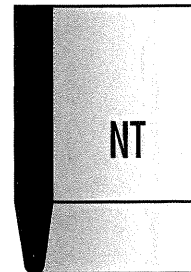
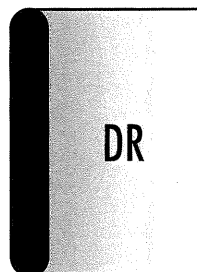
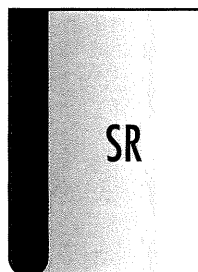
Using a special rolling process the required tensile strength and stability of the rule is guaranteed.

Brand	Hardness	1,5 pt 0,53 mm	2 pt 0,71 mm	3 pt 1,05 mm	4 pt 1,42 mm	6 pt 2,13 mm
BÖHLER HT	~ 400 HV (41 HRC)	✓	✓	✓		
BÖHLER HR	min. 265 HV (850 N/mm ²)				✓	✓

Böhler Flat Bed Rules

Creasing Rules

C) Profiles:



Single Round SR		Double Round DR		Wide Top WRT / WFT		Narrow Top NT	
[pt]	[mm]	[pt]	[mm]	[pt]	[mm]	[pt]	[mm]
1,5	0,53	1,5	0,53	2 / 3	0,71 / 1,05	2 / 1	0,71 / 0,36
2	0,71	2	0,71	2 / 4	0,71 / 1,42	2 / 1,3	0,71 / 0,45
3	1,05	3	1,05	3 / 6	1,05 / 2,13	2 / 1,4	0,71 / 0,50
4	1,42			3 / 8	1,05 / 2,84	2 / 1,5	0,71 / 0,53
6	2,13			4 / 8	1,42 / 2,84		
Standard		American style		LASER CREASE			

D) Range of Dimensions:

Rule Thickness s			Standard Heights h	
[pt]	[mm]	[inches]	[mm]	[inches]
1,5 - 6	0,53 - 2,13	0.021" - 0.084"	20,30 - 24,40	0.800" - 0.960"

other rule heights on request

Böhler Flat Bed Rules

Creasing Rules

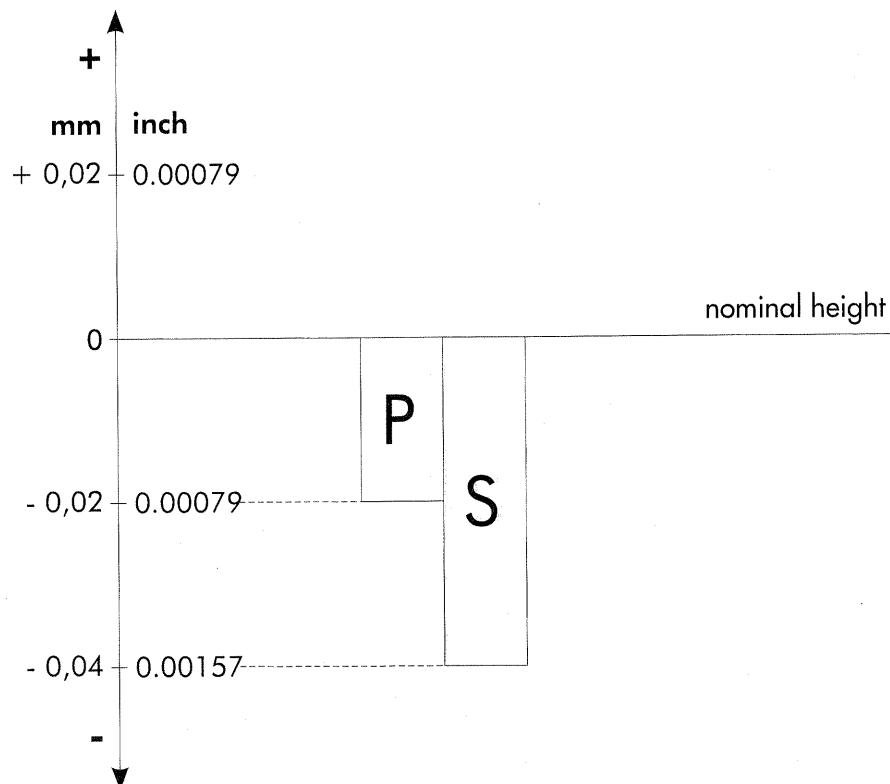
E) Tolerances of Dimensions:

Thickness Tolerance:

Rule Thickness s			Thickness Tolerance	
[pt]	[mm]	[inches]	[mm]	[inches]
1,5	0,53	0.021"	± 0,015	± 0.0006"
2	0,71	0.028"	± 0,015	± 0.0006"
3	1,05	0.041"	± 0,020	± 0.0008"
4	1,42	0.056"	± 0,020	± 0.0008"
6	2,13	0.084"	± 0,025	± 0.0010"

Height Tolerance:

Rule Height h		Height Tolerance		Standard Precise (on request)
[mm]	[inches]	[mm]	[inches]	
20,30 - 24,40	0.800" - 0.960"	+0 / -0,04 +0 / -0,02	+0 / -0.0016" +0 / -0.0008"	



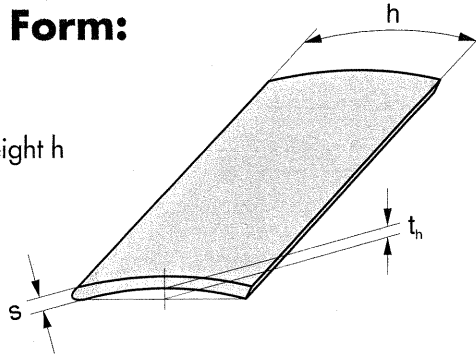
Böhler Flat Bed Rules

Creasing Rules

F) Tolerances of Form:

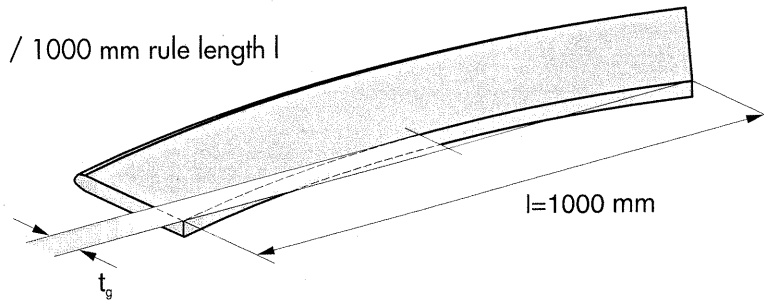
Cross Camber:

t_h : = max. $1 \mu\text{m} / \text{mm}$ rule height h



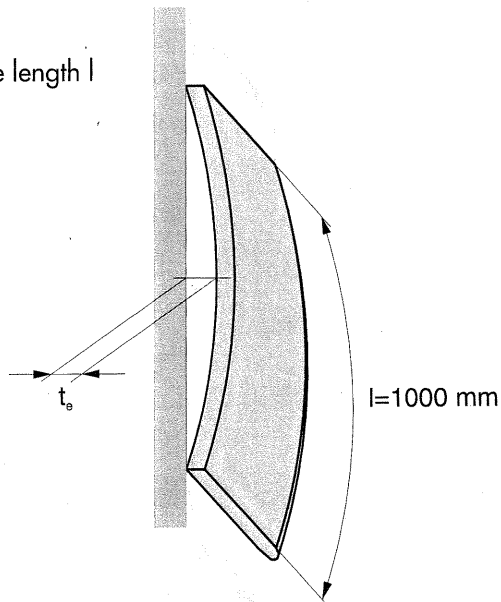
Straightness:

t_g : = max. $0,5 \text{ mm} / 1000 \text{ mm}$ rule length l

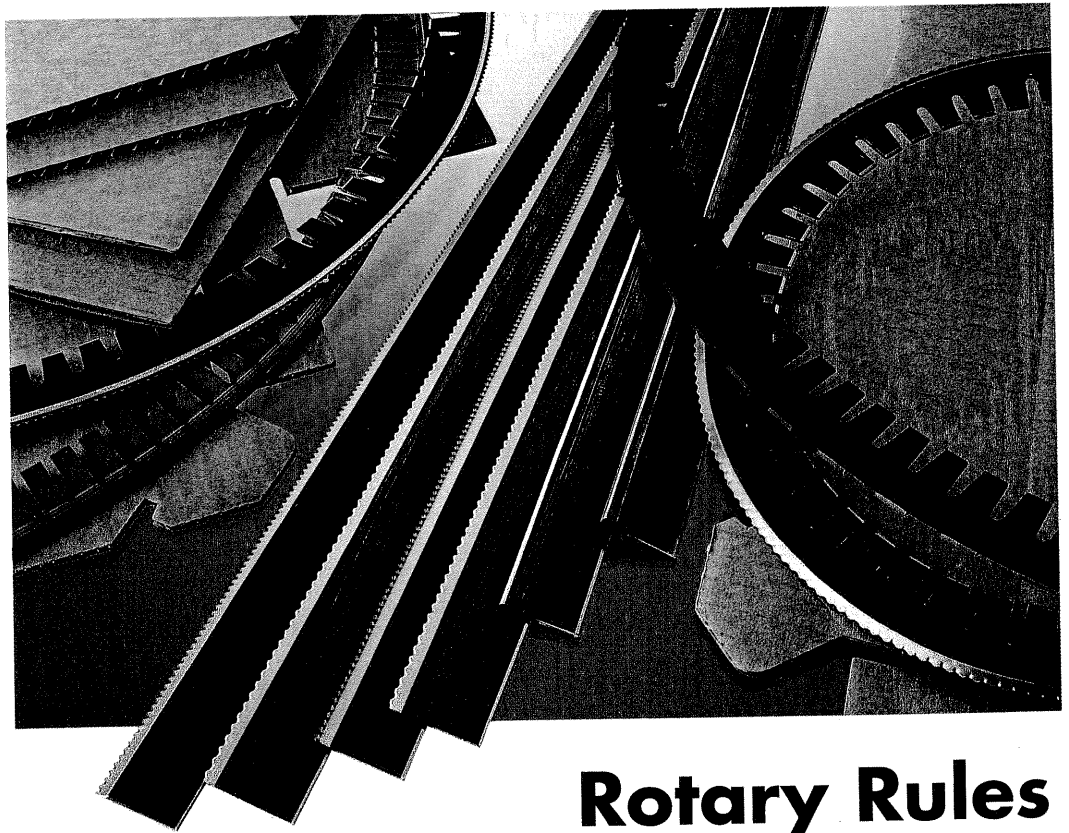


Flatness:

t_o : = max. $5 \text{ mm} / 1000 \text{ mm}$ rule length l



BÖHLER



Rotary Rules

Böhler Rotary Rules

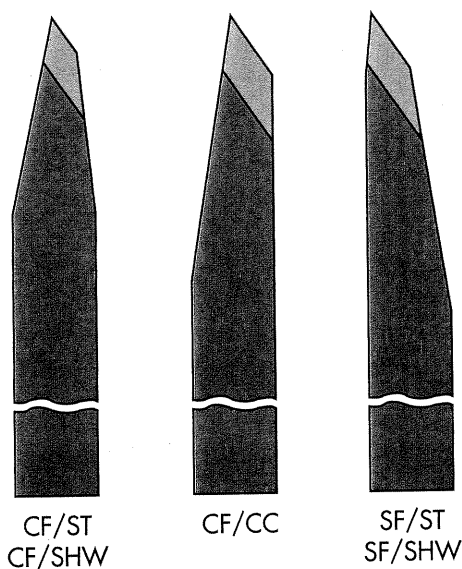
Serrated Cutting Rules

All BÖHLER rotary cutting rules have a drawn bevel and extremely accurately ground teeth.

A) Types of Profile:

CF – Centre Face
 /ST Standard
 /CC Clean Cut
 /SHW Shallow, waved

SF – Side Face
 /ST Standard
 /SHW Shallow, waved

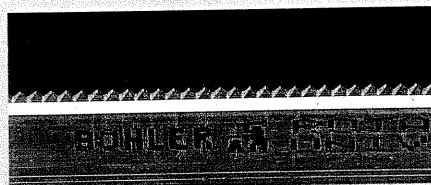


B) Tooth Shapes:

Teeth/ Inch	Tooth Spacing	
	[mm]	[inches]
8	3,18	0.1250"
10	2,54	0.1000"
12	2,12	0.0833"
16	1,59	0.0625"
8	3,18	0.1250"
8	3,18	0.1250"
12	2,12	0.0833"

ST
Standard

Bevels CF, SF



CC
Clean Cut

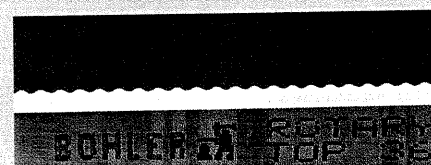
Bevels CF



SHW
Shallow, waved

POWER CUT

Bevels CF, SF



Böhler Rotary Rules

Serrated Cutting Rules

C) Brands:

The standard brand of our rotary cutting rules is TOP 36.

Rules with back execution SNN (axial - for horizontal cuts) can also be supplied in TOP, if required.

For the best possible service life, we recommend our edge-hardened cutting rules UNIVERSAL and UNIVERSAL 60.

Brand	Hardness		is used:	
	body	edge	axial	radial
BÖHLER TOP 36	~ 340 HV (34 HRC)		✓	✓
BÖHLER TOP	~ 450 HV (45 HRC)		✓	
BÖHLER UNIVERSAL	~ 340 HV (34 HRC)	~ 500 HV (49 HRC)	✓	✓
BÖHLER UNIVERSAL 60	~ 450HV (45 HRC)	~ 500 HV (49 HRC)	✓	

D) Range of Dimensions:

Rule Thickness s			Standard Heights h	
[pt]	[mm]	[inches]	[mm]	[inches]
3 - 6	1,05 - 2,13	0.041" - 0.084"	21,30 - 26,70	0.840" - 1.050"

other heights on request

E) Forms of Delivery:

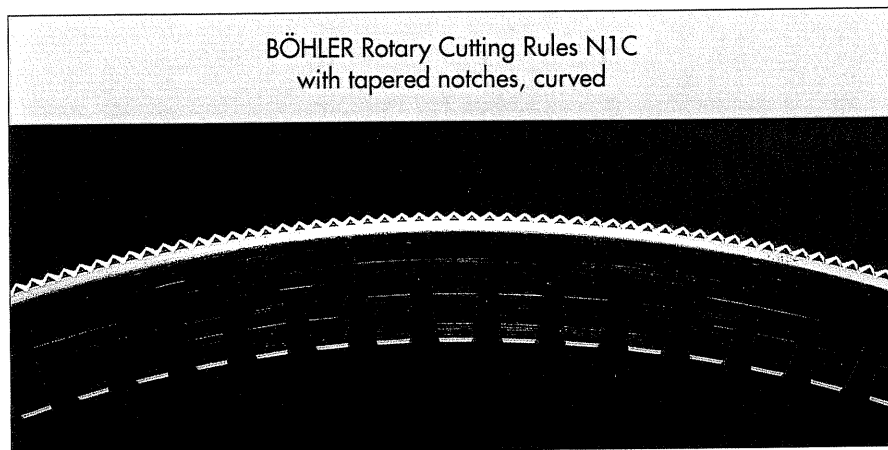
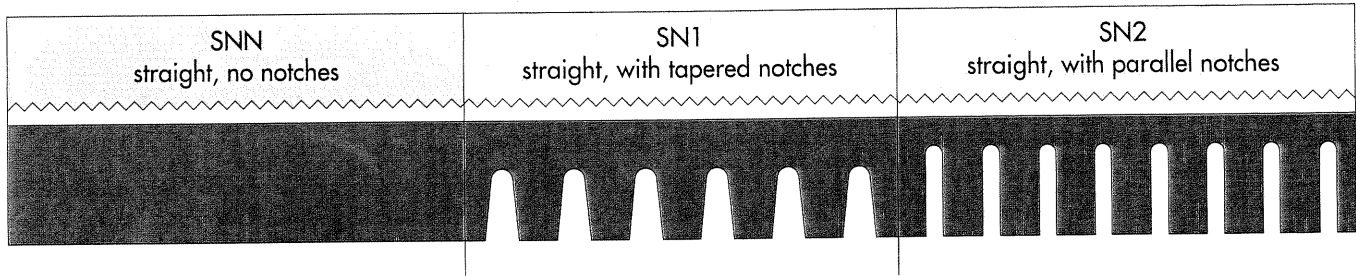
Back Execution	available are:	Coils	Strips
SNN	→	✓	✓
SN1 / SN2	→	✓	

Coil Lengths		Strip Lengths	
[m]	[ft]	[mm]	[inch]
30,5	100	914,4	36

Böhler Rotary Rules

Serrated Cutting Rules

F) Back Execution:



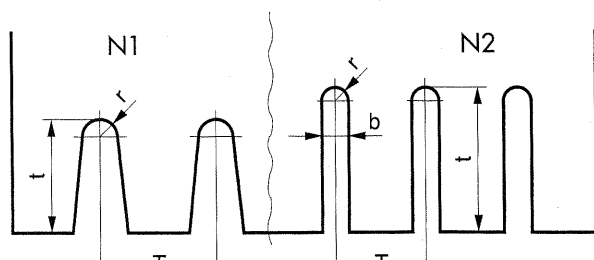
The curved rules are stress relieved after bending to prevent cracking at the bridges and to guarantee maximum dimensional accuracy on the cylinder.

As standard a nominal inner diameter IDn of 487 mm ($19 \frac{3}{16}$ " = size for 66" cylinder) is applied.

Other diameters should be specified.

To ensure an optimum fit of the curved rules in the plywood, our mill produces a 2% smaller inner diameter to ensure a better fit to the cylinder.

G) Dimensions of the Notches:



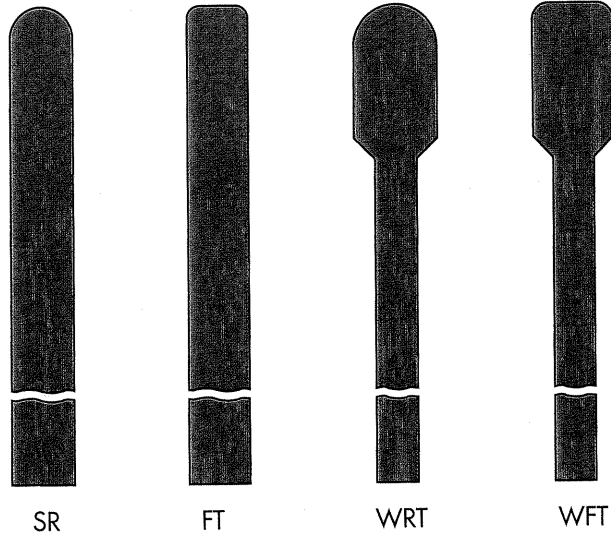
	Tapered Notches N1		Parallel Notches N2	
	[mm]	[inch]	[mm]	[inch]
Spacing T	12,7	0.500"	10,0	0.394"
Depth t	12,2	0.480"	16,0	0.630"
Radius r	1,9	0.075"	1,5	0.059"
Width b	—	—	3,0	0.118"

Böhler Rotary Rules

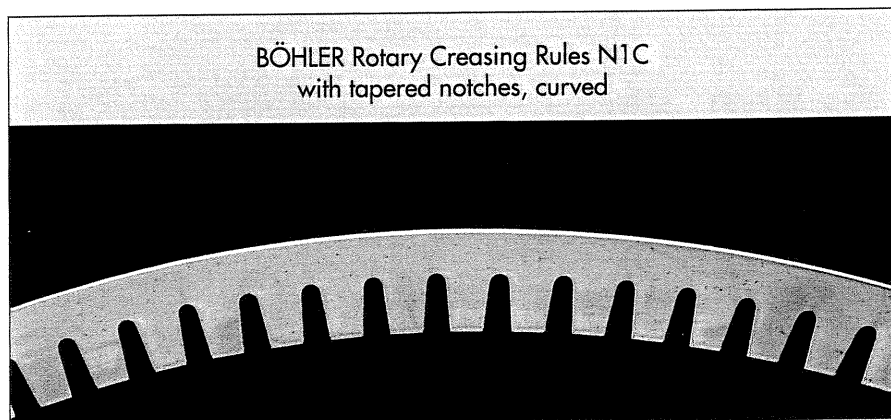
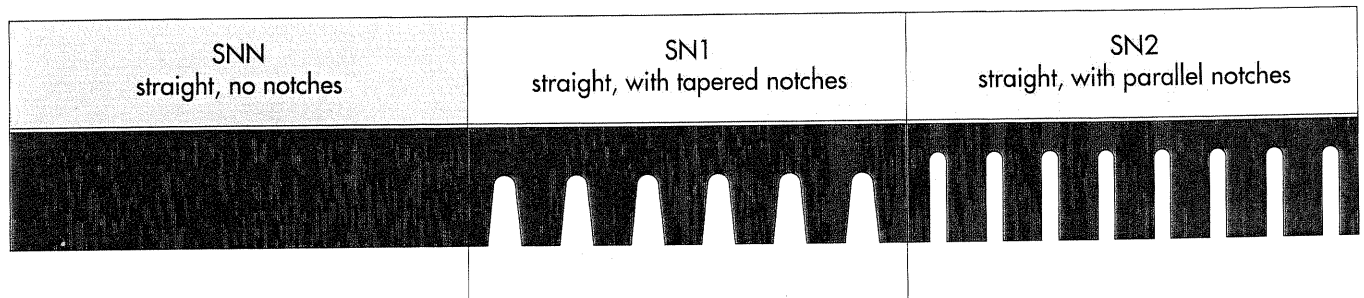
Creasing Rules

A) Types of Profile:

- SR - Single Round
- FT - Flat Top
- WRT - Wide, Round Top
- WFT - Wide, Flat Top



B) Back Execution:



Böhler Rotary Rules

Creasing Rules

C) Brands:

Brand	Hardness	3pt 1,05 mm	4 pt 1,42 mm	6pt 2,13 mm
BÖHLER HT	~ 400 HV (41 HRC)	✓	on request	on request
BÖHLER HR	min. 265 HV (850 N/mm ²)		✓	✓

D) Range of Dimensions:

Rule Thickness s			Standard Heights h	
[pt]	[mm]	[inches]	[mm]	[inches]
3 - 6	1,05 - 2,13	0.041" - 0.084"	20,05 - 25,40	0.790" - 1.000"

other heights on request

E) Forms of Delivery:

Back Execution	available are:	Coils	Strips
SNN	→	✓	✓
SN1 / SN2	→	✓	
N1C / N2C	→	✓	

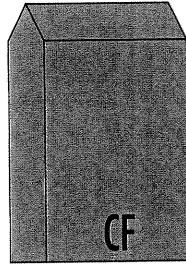
Coil Lengths		Strip Lengths	
[m]	[ft]	[mm]	[inch]
30,5	100	914,4	36
50,0		1000,0	

Böhler Rotary Rules

Special Rules

A) Type of Profile:

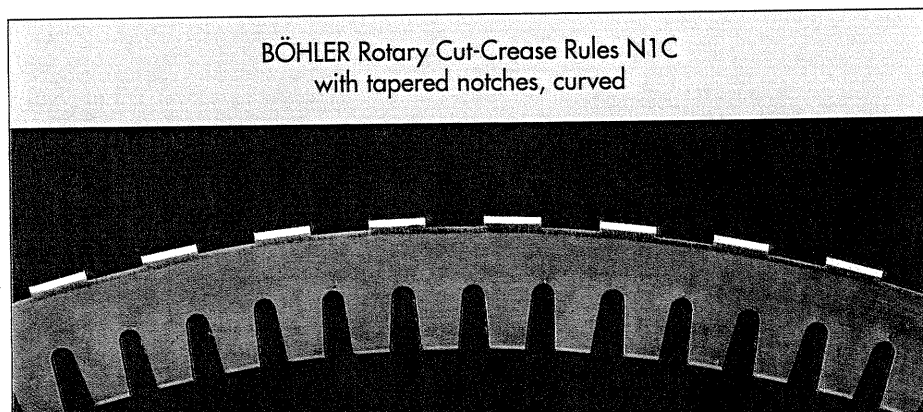
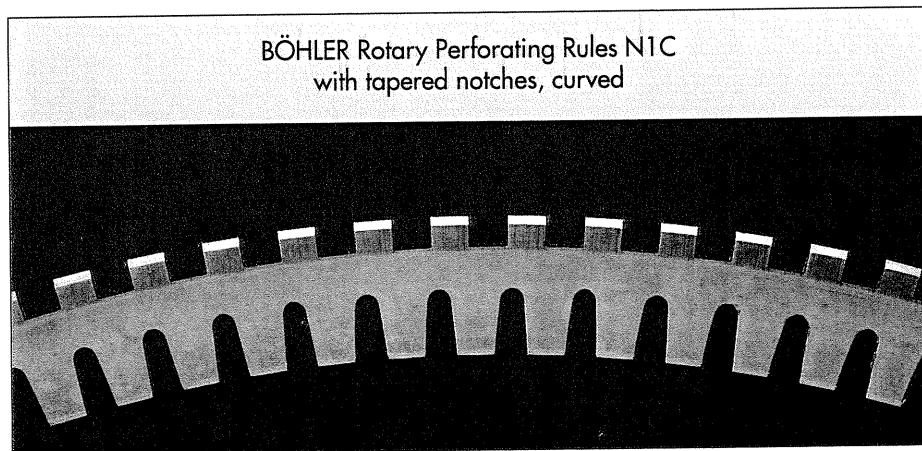
CF – Centre Face



B) Brands:

Brand	Hardness		is used:	
	body	edge	axial	radial
BÖHLER TOP 36	~ 340 HV (34 HRC)		✓	✓
BÖHLER TOP	~ 450 HV (45 HRC)		✓	

Examples:





THE EUROPEAN NETWORK FOR QUALITY SYSTEM ASSESSMENT AND CERTIFICATION

This is to state that
BÖHLER-YBBSTAL BAND GmbH & Co KG
 DIVISION OF BÖHLER-UDDEHOLM AG
 ROTTE WÜHR
 Waidhofnerstrasse 3
 A-3333 Böhlerwerk
 AUSTRIA

holds the Quality System Certificate

FM 34461
 BS EN ISO 9001 : 1994

for the standard from the
BS EN ISO 9000
series, and the scope as specified therein



Signed for and on behalf of EQNet member



DATE: 26 July 1996
 NUMBER: E1033596

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PT28 Issue 1



BÖHLER-YBBSTAL Band GmbH & Co KG
 Rotte Würh, Waidhofner Straße 3
 A-3333 Böhlerwerk, Austria
 Phone: ++43 (0) 74 42 / 600-220,, 225
 Fax: ++43 (0) 74 42 / 600-230

A company of the **BÖHLER UDDEHOLM** group